

REMARKS

Claims 11-23 are pending in this application. By this Amendment, claim 11 has been amended incorporate the features of claim 12 and to recite that all offgases from the first reactor and the downstream reactors are collected, support for which can be found at page 6, lines 7-9. Claims 12 and 22 have been canceled without prejudice or disclaimer. Entry and consideration of this amendment is earnestly requested in that it does not introduce new matter.

Claim Rejections

A. Response to rejection of claims 11 and 18-23 under 35 U.S.C. §103(a) as being unpatentable over Promel et al. in view of Job et al. and German, Jr. et al.

In response to the rejection of claims 11 and 18-23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,225,421 of Promel et al. (“Promel”) in view of U.S. Patent Application Publication 2002/0128401 of Job et al. (“Job”), and U.S. Patent No. 4,337,069 of German, Jr. et al. (“German”), Applicants have incorporated the features of claim 12 into claim 11. Because claim 12 was not included in this rejection, Applicants respectfully submit that the Rejection has been obviated. Reconsideration and withdrawal of the Rejection respectfully is requested.

B. Response to rejection of claims 12-17 under 35 U.S.C. §103(a) as being unpatentable over Promel, Job, German, and Mehra et al.

In response to the rejection of claims 12-17 under 35 U.S.C. 103(a) as being unpatentable over Promel, Job, German, and International Publication No. WO 96/27634 of Mehra et al. (“Mehra”), Applicants respectfully submit that a *prima facie* case of Obviousness has not been made out, and traverse the Rejection.

With respect to a Rejection under § 103, a proper analysis under § 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success" (emphasis added). *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Neither is present in the current Rejection.

First, as acknowledged by the Examiner, Promel do not specifically disclose collecting off gases leaving all the reactors, compressing and cooling in a gas scrubber, and recycle of gaseous and liquid portions to the reactor. The Examiner seeks to then remedy the deficiencies of Promel by citing Job, German and Mehra. The Examiner acknowledges that Job does not specifically disclose cooling off gases in a gas scrubber, but nevertheless utilizes Job as allegedly teaching collecting and compressing the off gases. German is used by the Examiner as allegedly disclosing Applicants claimed scrubber to cool the off gases. The Examiner acknowledges that Promel/Job/German do not specifically disclose the pressure and temperature of the compressed gases before and after cooling, but nevertheless cites Mehra as allegedly teaching the missing limitations.

The Examiner is correct in conceding that Promel do not specifically disclose collecting off gases leaving all the reactors, compressing and cooling in a gas scrubber, and recycle of gaseous and liquid portions to the reactor. In Response to Applicants' argument regarding the use of Promel's distillation column from the previous Office Action, the Examiner responded:

In response, it is the examiner's position that Promel discloses two options for separating off gases from the reaction mixture: Option one in which, "The suspension is usually subjected to a reduction in pressure (final reduction in pressure), so as to remove the diluent, the ethylene, the hexene and, optionally, the hydrogen from the composition" (column 5, lines 20-25). Option two: "According to an alternative form of the process according to the invention and more particularly when the diluent is isobutene, the gases exiting from the first reduction in pressure and from the final reduction in pressure are mixed, compressed and conveyed to a distillation column" (Column 5, lines 26-32, emphasis added). Thus, the use of a distillation column is an alternative only while using isobutene as a diluent. (Office Action, pages 9-10, paragraph 13)

The Examiner thus appears to apply Promel's "Option two," as allegedly teaching the separation of the gases. However, Promel's final reduction-in-pressure step is the second of two pressure reduction steps to remove light ends. The first pressure reduction step occurs after the production of homopolymer (A) in the first reactor. Gases are removed in both steps. In contrast, the current claims recite collecting all offgases leaving the first reactor and the at least one downstream reactor. Therefore, Promel teaches away from the current claims. In fact, modifying Promel as suggested by the Examiner would render Promel unsatisfactory for its intended purpose, since it would require only a single gas removal step. It is well settled that if

the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Job does not cure the deficiencies of Promel. In addition to the deficiencies of Job acknowledged by the Examiner, Job's polymerizations can be carried out in one, two or more reactors (paragraph [0077]), so use in a multiple reactor system is specially chosen by the Examiner. Moreover, Job preferably relates to gas phase polymerization, (paragraph [0076]) not polymerization in suspension, as in the current claims. Finally, in relation to the cooling of unreacted monomer, Job refers to U.S. Patent No. 5,462,999 of Griffin et al. ("Griffin") as exemplifying the cooling of a stream containing unreacted monomer. However, Griffin refers to a conventional heat exchanger:

The recycle stream 16 once withdrawn from the reactor above the freeboard zone 14 is then compressed in compressor 28 and passes through the heat exchanger 26, where heat generated by the polymerization reaction and gas compression are removed from the recycle stream 16 before returning the recycle stream 16 back to the reaction zone 12 in the reactor 10. The heat exchanger 26 is conventional in type and can be placed within the recycle stream line 16 in either a vertical or horizontal position. (col. 9, lines 47-55)

Griffin therefore teaches conventional heat exchangers where the heat-transfer is indirect and the fluid to be cooled and the cooling stream are segregated; not the use of a water scrubber as in the present claims. Thus, Job also teaches the use of conventional heat exchangers, not a scrubber. The Examiner discounts this fact in combining the references.

With respect to German, it relates to gas phase olefin polymerization.

Gas phase reactor systems in which this invention is useful include both stirred bed reactors and fluidized bed reactor systems, (col. 2, lines 26-28)

not polymerization in a suspension process, as in the current claims.

The Examiner cites Mehra as allegedly teaching the temperature and pressure of different streams, however, the treatment of gases in Mehra precedes an absorption process followed by distillation.

In formulating the Rejection, Applicants respectfully submit that the Examiner has improperly used the invention as a blueprint for linking together pieces of prior art in order to find the invention obvious. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1141 (Fed. Cir. 1985). The Federal Circuit has referred to using the invention as a “blueprint for piecing together the prior art … [as] the essence of hindsight.” *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999). By selectively choosing: (1) a solution polymerization from Promel; (2) collecting/compressing the off gases from Job; (3) a scrubber from German; and (4) pressures and temperatures from Mehra, the Examiner has improperly used “hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention” *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1371 (Fed. Cir. 2000) (quoting *In re Fine*, 837 F.2d 1071, 1075 (1988)). The Examiner has effectively conducted a “reference-by-reference, limitation-by-limitation analysis” which fails to demonstrate how the invention is obvious in light of prior art. (*See Ecolochem* at 1374)

Moreover, even if some of the claimed property limitations are disparately disclosed among the four references cited, the Examiner has not offered any reason why one skilled in the art would construct a suspension process for preparing polyolefin polymers simultaneously having all of the recited limitations in the manner claimed. A proper analysis under 35 U.S.C. §103 requires showing that “there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) “We must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention.” *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008). In this case, the Examiner has clearly not provided a reason as to why the ordinary artisan would have practiced a polymerization process simultaneously having all of the claimed limitations, based on the cited references.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have questions or comments regarding this application or this Amendment, Applicants’ attorney would welcome the opportunity to discuss the case with the Examiner.

The Commissioner is hereby authorized to charge U.S. PTO Deposit Account 50-4380 in the amount of any fee required for consideration of this Amendment.

Respectfully submitted,

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I hereby certify that this correspondence is being transmitted via the U.S. Patent and Trademark Office electronic filing system (EFS-Web) to the USPTO on April 29, 2011.

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